

1. A method of providing security during operation of a checkout terminal, comprising the steps of:

creating a database during a checkout procedure which includes a first record corresponding to an input item entered into the terminal during the checkout procedure, the first record including (1) a first identification code associated with the input item, and (2) an input weight value corresponding to the weight of the input item;

determining a second identification code associated with a removal item in response to a user voiding entry of the removal item;

detecting the weight of the removal item and generating a removal weight value in response thereto; and

generating a wrong-item-removed control signal if (1) the first identification code is the same as the second identification code, and (2) the input weight value does not match the removal weight value.

2. The method of claim 1, further comprising the steps of:

updating an electronic log value in response to generation of the wrong-item-removed control signal; and

comparing the electronic log value to a log threshold and generating a personnel signal in response thereto.

3. The method of claim 1, wherein:

the terminal includes a first scale, and
the detection step includes the step of detecting the weight of the removal item with the first scale and generating the removal weight value in response thereto.

4. The method of claim 1, further comprising the step of:

generating a correct-item-removed control signal if (1) the first identification code is the same as the second identification code, and (2) the input weight value matches the removal weight value.

5. The method of claim 1, further comprising the step of:

generating a personnel control signal in response to generation of the wrong-item-removed control signal.

6. The method of claim 5, further comprising the step of:

suspending operation of the terminal in response to generation of the personnel control signal.

7. The method of claim 3, wherein (1) the first scale is positioned in a first area associated with the terminal, (2) the terminal further has a second scale positioned in a second area associated with the terminal, and (3) the first area is

located at a position downstream from the second area, further comprising the steps of:

detecting the weight of the removal item with the second scale and generating a return weight value associated with the weight of the removal item in response thereto; and

generating a wrong-item-returned control signal if the return weight value does not match the removal weight value.

8. A method of providing security during operation of a checkout terminal, with the terminal having a first scale, comprising the steps of:

storing a first identification code associated with an input item in a memory in response to entry of the input item into the terminal;

detecting the weight of the input item with the first scale and storing an input weight value associated with the weight of the input item in the memory in response thereto;

retrieving a second identification code associated with a removal item from the memory in response to a user voiding entry of the removal item;

detecting the weight of the removal item with the first scale and generating a removal weight value associated with the weight of the removal item in response thereto; and

generating a wrong-item-removed control signal if (1) the first identification code is the same as the second identification code, and (2) the input weight value does not match the removal weight value.

9. The method of claim 8, further comprising the step of:

updating an electronic log value in response to generation of the wrong-item-removed control signal.

10. The method of claim 9, further comprising the step of:

comparing the electronic log value to a log threshold and generating a personnel signal in response thereto.

11. The method of claim 8, further comprising the step of:

generating a correct-item-removed control signal if (1) the first identification code is the same as the second identification code, and (2) the input weight value matches the removal weight value.

12. The method of claim 8, further comprising the step of:

generating a personnel control signal in response to generation of the wrong-item-removed control signal.

13. The method of claim 12, further comprising the step of:

suspending operation of the terminal in response to generation of the personnel control signal.

14. The method of claim 8, wherein (1) the first scale is positioned in a first area associated with the terminal, (2) the terminal further has a second scale positioned in a second area associated with the terminal, and (3) the first area is located at a position downstream from the second area, further comprising the steps of:

detecting the weight of the removal item with the second scale and generating a return weight value associated with the weight of the removal item in response thereto; and

generating a wrong-item-returned control signal if the return weight value does not match the removal weight value.

15. The method of claim 8, wherein:

the terminal includes a bagwell having a grocery container therein,

the first scale is configured to detect the weight of the grocery container and any items located therein,

the step of detecting the weight of the input item includes the step of detecting the weight of the input item when the input item is located within the grocery container, and

the step of detecting the weight of the removal item includes the step of detecting the weight of the removal item when the removal item is located outside of the grocery container.

16. A checkout terminal, comprising:

a first weight scale;

a memory;

means for storing a first identification code associated with an input item in said memory in response to entry of said input item into said terminal;

means for detecting the weight of said input item with said first weight scale and storing an input weight value associated with the weight of said input item in said memory in response thereto;

means for retrieving a second identification code associated with a removal item from said memory in response to a user voiding entry of said removal item;

means for detecting the weight of said removal item with said first weight scale and generating a removal weight value associated with the weight of said removal item in response thereto; and

means for generating a wrong-item-removed control signal if (1) said first identification code is the same as said

second identification code, and (2) said input weight value does not match said removal weight value.

17. The checkout terminal of claim 16, further comprising:

means for updating an electronic log value in response to generation of said wrong-item-removed control signal; and
means for comparing said electronic log value to a log threshold and generating a personnel signal in response thereto.

18. The checkout terminal of claim 16, further comprising:

means for generating a correct-item-removed control signal if (1) said first identification code is the same as said second identification code, and (2) said input weight value matches said removal weight value.

19. The checkout terminal of claim 16, further comprising:

means for generating a personnel control signal in response to generation of said wrong-item-removed control signal; and

means for suspending operation of said terminal in response to generation of said personnel control signal.

20. The checkout terminal of claim 16, further comprising:

a second weight scale;

means for detecting the weight of said removal item with said second scale and generating a return weight value associated with the weight of said removal item in response thereto; and

means for generating a wrong-item-returned control signal if said return weight value does not match said removal weight value,

wherein (1) said first weight scale is positioned in a first area associated with said terminal, (2) said second weight scale is positioned in a second area associated with said terminal, and (3) said first area is located at a position downstream from said second area.

21. The checkout terminal of claim 16, further comprising:

a bagwell having a grocery container therein, wherein said first weight scale is configured to detect the weight of said grocery container and any items located therein;

means for detecting the weight of said input item when said input item is located within said grocery container; and

means for detecting the weight of said removal item when said removal item is located outside of said grocery container.

22. A method of providing security during operation of a retail self-service checkout terminal, comprising the steps of:

creating a transaction level weight database during a checkout procedure which includes records corresponding to input items entered into the terminal during a checkout procedure, the records including input weight values corresponding to the weights of the input items;

retrieving the input weight value from the transaction level weight database in response to a voiding of the entry of the corresponding input item;

detecting a removal weight of an input item removed from a weight scale, and generating a removal weight value in response thereto; and

generating a wrong-item-removed control signal if the retrieved input weight value does not match the removal weight value for the removed input item.

23. The method of claim 22, further comprising the steps of:

updating an electronic log value in response to generation of the wrong-item-removed control signal; and

comparing the electronic log value to a log threshold and generating a personnel signal in response thereto.

24. The method of claim 22, wherein:

the terminal includes a weight scale in a post-scan area,
and

the detection step includes the step of detecting the
weight of the removed item with the weight scale in the post-
scan area and generating the removal weight value in response
thereto.

25. The method of claim 22, further comprising the step of:

generating a correct-item-removed control signal if the
retrieved input weight value matches the removal weight value
for the removed input item.

26. The method of claim 22, further comprising the step of:

generating a personnel control signal in response to
generation of the wrong-item-removed control signal.

27. The method of claim 26, further comprising the step of:

suspending operation of the terminal in response to
generation of the personnel control signal.

28. The method of claim 24, wherein the terminal further has a
second scale positioned in a pre-scan area associated with the
terminal, further comprising the steps of:

after the removal weight value is generated, detecting the weight of an item placed in the second scale and generating a return weight value in response thereto; and generating a wrong-item-returned control signal if the return weight value does not match the removal weight value for the removed input item.

29. A method of providing security during operation of a retail self-service checkout terminal, with the terminal having an input weight scale, comprising the steps of:

storing an identification code associated with an input item in a memory in response to entry of the input item into the terminal;

detecting the weight of the input item with the input weight scale and storing an input weight value associated with the weight of the input item in the memory in response thereto;

retrieving the stored input weight value in response to voiding of the entry of the input item;

detecting the weight of an item removed from the input weight scale and generating a removal weight value associated with the weight of the removed item in response thereto; and

generating a wrong-item-removed control signal if the retrieved input weight value does not match the removal weight value for the removed item.

30. The method of claim 29, further comprising the step of:
updating an electronic log value in response to
generation of the wrong-item-removed control signal.

31. The method of claim 20, further comprising the step of:
comparing the electronic log value to a log threshold and
generating a personnel signal in response thereto.

32. The method of claim 29, further comprising the step of:
generating a correct-item-removed control signal if the
retrieved input weight value matches the removal weight value
for the removed item.

33. The method of claim 29, further comprising the step of:
generating a personnel control signal in response to
generation of the wrong-item-removed control signal.

34. The method of claim 33, further comprising the step of:
suspending operation of the terminal in response to
generation of the personnel control signal.

35. The method of claim 29, wherein the terminal further has a second weight scale, further comprising the steps of:

after the removal weight value is generated, detecting the weight of an item placed in the second weight scale and generating a return weight value in response thereto; and

generating a wrong-item-returned control signal if the return weight value does not match the removal weight value for the removed input item.

36. The method of claim 29, wherein:

the terminal includes a bagwell having a grocery container therein,

the input weight scale is configured to detect the weight of the grocery container and any items located therein,

the step of detecting the weight of the input item includes the step of detecting the weight of the input item when the input item is located within the grocery container, and

the step of detecting the weight of the removal item includes the step of detecting the weight of the removed item when the removal item is removed from the grocery container.

37. A retail self-service checkout terminal, comprising:

a memory that stores a transaction level database including an identification code associated with an input item in response to entry of the input item into the terminal;

an input weight scale that detects the weight of said input item enabling an associated input weight value to be generated and stored in said transaction level database;

a bagwell weight scale that detects a removal weight associated with removing said input item from the bagwell weight scale, enabling an associated removal weight value to be generated; and

a processing unit that retrieves said input weight value from the transaction level database, when voiding the entry of said input item, and generates a wrong-item-removed control signal if said retrieved input weight value does not match said removal weight value.

38. The checkout terminal of claim 37 in which the processing unit updates an electronic log value in response to generation of said wrong-item-removed control signal, and generating a personnel control signal in response to comparing said electronic log value to a log threshold.

39. The checkout terminal of claim 37 in which the processing unit generates a correct-item-removed control signal if said

retrieved input weight value matches said removal weight value.

40. The checkout terminal of claim 37 in which the processing unit generates a personnel control signal in response to generation of said wrong-item-removed control signal, and halts operation of said terminal in connection with said personnel control signal being generated.

41. The checkout terminal of claim 37, further comprising:

a pre-scan area weight scale that detects the weight of an item placed in the pre-scan area weight scale, after generation of said removal weight value, enabling generation of a return weight value in response thereto,

wherein the processing unit generates a wrong-item-returned control signal if said return weight value does not match said removal weight value, and

wherein (1) said input weight scale is positioned in a post-scan area associated with said terminal, and (2) said pre-scan area weight scale is positioned in a pre-scan area for said terminal.

42. The checkout terminal of claim 37, further comprising:

a bagwell having a grocery container therein, wherein said bagwell weight scale is configured to detect the weight of said grocery container and any items located therein;

wherein said bagwell weight scale detects the weight of said input item when said input item is located within said grocery container; and

wherein said bagwell weight scale enables generation of said removal weight value when said input item is removed from said grocery container.

43. A method of providing security during operation of a retail self-service checkout terminal, comprising the steps of:

providing for data entry for input items for purchase in a retail transaction;

providing for retrieval of a stored weight value for one of the input items, where the retrieval of the stored weight value is in response to an entry of the one of the input items being voided;

providing for detection of a removal weight of an item removed from a weight scale, and for generating a corresponding removal weight value in response to the detection; and

providing for generating a wrong-item-removed control signal if the retrieved stored weight value does not match the removal weight value for the removed item.

44. The method of claim 43 further comprising a step of providing a message instructing removal from the weight scale of an input item for which an entry is being voided.

45. The method of claim 43 in which the weight scale is positioned to determine the combined weight of input items placed in two or more open grocery bags.

46. The method of claim 45 in which the open grocery bags are secured to allow the input items to be selectively loaded into the grocery bags in a post-scan area.

47. The method of claim 45 in which the open grocery bags are secured along with a number of unopened grocery bags in the post-scan area.

48. The method of claim 45 further comprising a step of generating a bags removed control signal if all input items are removed from the weight scale.

49. The method of claim 43 further comprising a step of providing a message instructing removal from the weight scale of an input item for which an entry is being voided, which message is provided if the input item is not removed from the weight scale within a predetermined period of time.

50. The method of claim 43 further comprising a step of providing a message re-instructing removal from the weight scale of an input item for which an entry is being voided, which message is provided if the input item is not removed from the weight scale within a predetermined period of time.

51. The method of claim 43 further comprising a step of providing a message instructing removal from the weight scale of all input items, which message is generated if payment has been tendered and all associated input items are not removed from the weight scale within a predetermined time period.

52. The method of claim 43 further comprising a step of providing a message re-instructing removal from the weight scale of all input items, which message is generated if payment has been tendered and all associated input items are not removed from the weight scale within a predetermined time period.

53. The method of claim 43 further comprising a step of adding a record to a transaction level database in response to detection of a input item being placed on the weight scale, said record including a location code for the input item placed on the weight scale.

54. The method of claim 53 in which the wrong-item-removed control signal is generated if the transaction level database includes a record for the input item being voided and the retrieved stored weight value does not match the removal weight value for the removed item.

55. The method of claim 54 in which a user may opt not to place an entered input item onto the weight scale.

56. The method of claim 55 in which a detection control signal is generated and the transaction level database is updated if the entered input item is placed onto the weight scale by a user.